

Manchester Water Works

DROUGHT MANAGEMENT PLAN

**Adopted
Board of Water Commissioners
May 29, 2002**

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DROUGHT MANAGEMENT PLAN

PURPOSE

The purpose of this document is to define Manchester Water Works (MWW) strategies required to reduce water demand over a relatively short period of time in response to drought or other conditions that may require quick action. As defined in M50 entitled Water Resource Planning Manual by the AWWA, "the purpose of a drought management plan is to manage a period of declining supply and increasing demand so that demand does not exceed either supply or system capacity." This plan supplements MWW's long term conservation strategies to promote effective water resource management through programs such as leak detection, meter testing and public education. The overall goal of the plan is to protect the health and safety of our customers by properly managing our water resource.

WATER RESOURCE AND DEMAND

The MWW is the largest water utility in the State of New Hampshire serving an estimated population in excess of 140,000 people in the City of Manchester and the towns of Auburn, Bedford, Derry, Goffstown, Hooksett and Londonderry. The sole source of supply for MWW is Lake Massabesic, a naturally occurring lake located east of Manchester along the Auburn town line. The gross storage capacity of the supply system is approximately 16 billion gallons with a "safe yield" based upon the 1964-65 drought of record determined to be 20.5 MG. The 100-year average annual rainfall in the area is 39. 2001 rainfall was only 30.41". The average daily consumption for 2001 was a record 17.4 MG with a max day of 29.1 MG which occurred on August 8th. Average monthly consumption varies from a low of 14 MGD during winter months to a high slightly in excess of 23 MGD during the summer. Reducing or managing excess demand during a drought is the objective of this plan.

Insert Cumulative Rainfall & Lake Levels Ave vs Actual
Chart

Manchester Water Works

ACTION PLAN

The MWW intends to respond to declared drought severity levels at either the local or statewide level by implementing appropriate demand reduction measures so as to minimize disruption to our customers' lives and businesses and to insure the department's ability to meet the public health and safety needs of the communities that we serve. The plan outlines objectives, action steps and penalties to be implemented over several months as drought conditions potentially worsen.

Level 1 Alert

A) Objectives

1. To prepare MWW, City, relative agencies, and consumers of potential water shortage to allow for sufficient planning.
2. To undertake supply management activities to minimize the need for more stringent supply and demand actions in the future.

B) Action Steps

1. Issue press release to alert public of possible drought.
2. Urge voluntary reduction in outdoor watering.
3. Update Drought Management Plan.
4. Notify Wholesale Customers.

C) Penalty N/A, Public Education

Level 2 Warning

A) Objective

1. To reduce demand by 5-10% through voluntary action.
2. Minimize the need for mandatory measures.
3. Minimize impact on customers.
4. Maintain water quality standards.

B) Action Steps

1. Issue press release to alert public of eminent drought.
2. Strongly urge voluntary effort to reduce demand.
3. Provide specific water conservation measures to all customers.
4. Reduce MWW discretionary use.
5. Notify emergency management officials, wholesale, municipal and large commercial customers.
6. Train staff in demand reduction BMP and enforcement requirements.

C) Penalty – N/A, Public Education

Level 3 Emergency

A) Objective

1. To restrict non essential uses to reduce demand by 15-20%.
2. To ensure that adequate supply is available to meet public health and safety needs.
3. Maintain water quality standards.

B) Action Steps

1. Designate project coordinator.
2. Issue press release of emergency drought and increase public education.
3. Board of Water Commissioners institute mandatory restrictions and penalties.
 - a. Odd-even lawn watering every 3 to 4 days depending on drought severity. No watering from 10 am to 6 pm daily.
 - b. Minimize public use, hydrant and main flushing, irrigation, street sweeping.
 - c. Limit private pool filling, eliminate golf course fairway irrigation, new lawn installation, curbside car washing, construction use of water from hydrants, hosing of hard surfaces, bulk sale of water except in order to provide minimal health and sanitation, restaurant water unless requested.
4. Notify emergency management officials, wholesale, municipal and large commercial customers.
5. Begin monitoring and enforcement action.

C) Penalty

1. Public education
2. Written warning
3. Service suspension and \$50 fine

Level 4 Disaster

A) Objective

1. To eliminate all non-essential use.
2. To meet basic public health and safety needs.

B) Action Steps

1. Inform customers of disaster drought.
2. Board of Water Commissioners institute enhanced mandatory restrictions and penalties.
 - a. Eliminate all outside use of water.
 - b. Eliminate all non emergency public use.
 - c. Eliminate non essential commercial use as needed.
 - d. Ration residential use as needed (exempt medical emergency).
3. Notify wholesale, municipal and large commercial customers.
4. Increase enforcement action with assistance of local Police Departments.
5. Impose a moratorium on new connections.

C) Penalty

1. Written warning
2. Service suspension and \$100 fine